

Remarks/Arguments began on page 6 of this paper.

Amendments to the Specification

Please replace paragraph [0054] beginning on page 16 with the following:

A1 --[0054] According to the present invention a semiconductor device having eight levels of copper metal interconnect was sectioned and etched with the solution prepared according to the present invention, wherein the solution included 20 ml of deionized water, 5 ml of a 49 weight percent aqueous hydrofluoric acid, and 5 ml of a 39 weight percent aqueous HCl. The etched device was analyzed under a scanning electron microscope and all eight levels of copper metal interconnect and corresponding interlayer dielectric layers having $\text{Si}(\text{CH}_3)_x\text{O}_{2-x}$ were clearly visible. The following is a chart of the measurements of the sectioned device as analyzed under the scanning electron microscope.--

This listing of the claims will replace all prior versions, and listings, of claims in the application:

Claims 1-~~7~~ (currently deleted)

Claim 8 (currently amended): A method comprising:

providing a semiconductor device having at least two metal interconnect layers and a dielectric layer comprising a low dielectric constant material between the metal interconnect layers;

etching the device in aqueous solution of HF and HCl;

analyzing the etch device in a scanning electron microscope and so that the etching does not stop on the low dielectric constant material and the dielectric layer is etched.

A2
Claim 9 (original): A method as set forth in claim 8 wherein the weight ratio of HF to HCl in the solution ranges from 1:3 to 4:1.

Claim 10 (original): A method as set forth in claim 8 wherein the low dielectric constant material includes -OR groups wherein R is a hydrocarbon derivative.

Claim 11 (original): A method as set forth in claim 8 wherein the low dielectric constant includes methyloxy groups.

Claim 12 (original): A method as set forth in claim 8 wherein the metal interconnect consists essentially of copper.

Claim 13 (original): A method as set forth in claim 8 wherein the metal interconnect comprises aluminum.

Claim 14 (original): A method as set forth in claim 8 wherein the step of etching the device is carried out by dipping the device in a bath of the aqueous solution of HF and HCl.

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Claim 15 (original): A method as set forth in claim 8 wherein the low dielectric constant material has a dielectric constant less than 3.8.

Claim 16 (original): A method as set forth in claim 8 wherein the low dielectric constant material comprises fluorosilicate glass.

Claim 17 (original): A method as set forth in claim 9 wherein the aqueous solution includes deionized water and wherein the weight ratio of the deionized water to either HF or HCl ranges from about 20:1 to 6:5.

Claim 18 (original): A method as set forth in claim 8 wherein the low dielectric constant material is hydrophobic.

Claim 19 (original): A method as set forth in claim 8 wherein the low dielectric constant material comprises an organosilicon.

Claim 20 (original): A method as set forth in claim 8 wherein the low dielectric constant material comprises an organic based film.

Claim 21 (currently amended): A method comprising:

providing a semiconductor device having at least two metal interconnect layers and a dielectric layer comprising a low dielectric constant material between the two metal interconnect layers;

etching the semiconductor device in an aqueous solution of HF and HCl and so that the etching does not stop on the low dielectric constant material and the dielectric layer is etched.

Claim 22 (currently amended): A method as set forth in claim 21 ~~wherein the low dielectric constant material is formed from an organosilicon~~ 8 wherein the low dielectric constant material includes $\text{Si}(\text{CH}_3)_x\text{O}_{2-x}$.

Claim 23 (currently deleted).

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Claim 24 (currently amended): A method as set forth in claim 23 ~~wherein the aqueous solution comprises deionized water and wherein the weight ratio of deionized water to either the HF or HCl ranges from 20:1 to 6:5~~ 8 further comprising analyzing the etched device in a scanning electron microscope.
